

## ABSTRACT OF THE DISCLOSURE

An optical displacement-measuring apparatus has a scale on which optical gratings are formed along a first axis and a second axis. It also has a sensor head arranged opposite to the scale and relatively movable along the first and second axes. The sensor head includes a photosensitive unit (3) for optically detecting a relative movement to provide a displacement signal. The photosensitive unit (3) includes a transparent substrate (30). A photosensitive device array (PDAY) is formed with a semiconductor film deposited on the substrate (30) and arrayed along the first axis at a certain pitch for providing a displacement signal corresponding to a displacement along the first axis. A photosensitive device array (PDAX) is formed with a semiconductor film deposited on the photosensitive device array (PDAY) sandwiching an insulator layer therebetween and arrayed along the second axis at a certain pitch for providing a displacement signal corresponding to a displacement along the second axis.